



ADVANCED CIRCUITRY

P. O. Box 2847, Commercial Station, Springfield, Mo. 65803 417 862-0751

July 16, 1982

Mr. John J. Franke
Regional Administrator
U.S. Environmental Protection Agency
Region VII
324 E. 11th
Kansas City, Missouri 64106

Dear Mr. Franke:

Please find enclosed our revised closure plan which reflects additional information requested by Mr. David Bedan of the Missouri Department of Environmental Quality. Advanced Circuitry's change in contractors and methods is due to the advantage to us to have a single contractor of known reliability.

In our last closure plan, I failed to point out that due to the accelerated D.N.R. time table, the Federal requirements of public notification and hearings could not be met. It is hoped that this item no way endangers our closure plan.

Sincerely,

David Edwards
Facilities Manager

DE/bs

Enclosure

CC: Mr. Gerald P. Lucey, Attorney, Litton ACD
Mr. Ronald Enos, President, ACD



R00337320
RCRA RECORDS CENTER

EPA-ARHM/SWMG
JUL 19 1982
Region VII K.C., MO



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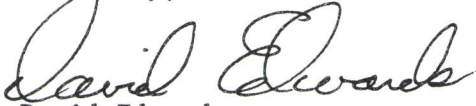
Mr. Fred Lafser
Director, Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Dear Mr. Lafser:

Please find enclosed our revised closure plan which reflects the additional information which Mr. Bedan requested in his letter dated July 13, 1982. The change of contractor to Industrial Environmental Service is due to the advantage to Advanced Circuitry of having a single contractor of known reliability.

It is hoped that this revision meets with your approval. If additional information is required, please notify me.

Sincerely,


David Edwards
Facilities Manager

DE/bs

Enclosure

CC: Mr. John J. Franke, Regional Administrator
EPA, Region VII
Mr. Robert Schreiber, Director, Division of Environmental Quality
Mr. Gerald P. Lucey, Attorney, Litton ACD
Mr. Ronald Enos, President, Advanced Circuitry
Mr. Robert Schaefer, P.E., Superintendent of Sanitary Services
Mr. Burt McGullough, D.N.R.

Subpart G - Closure and Post-Closure

265.111 Closure and Post-Closure

- A. Owner shall close facility in a manner to minimize all hazards.

265.112 Closure Plan

- A. In March, 1982, the city sewer system was available for hookup and Litton began its use for effluent discharge. At that time, Litton discontinued discharging effluent waters to "A" pond. Due to the DNR Eminent Hazardous Action of March, 1982, the waste water in "A" pond was removed. Closure is expected to begin between August 1st and 15th, 1982.
- B. All tests generated at this time, show the sludge to pass the EPA EP toxic testing levels thereby, rendering it non-hazardous. Due to the expedient manner in which the state has required closure, Litton feels it has been given insufficient time to petition for delisting. To meet the deadline, Litton will treat the sludge as if it were hazardous. Enclosed are analysis by independent testing labs of our sludge. The samples were approximately one liter in size and taken as representative grab samples. The samples were taken at the North East and South West corners of our lagoon. All samples were collected in inert, clean containers.
- C. Based on calculations enclosed, approximately 1800 yd³ of sludge will have accumulated. Our contractor, National Industrial Environmental Service (NIES) will remove, transport, and dispose of the sludge in a safe and timely manner. The disposal site will be Joliet, Illinois. Appropriate Illinois permits are currently being reviewed by the state of Illinois.
- D. It is obviously the intent of the D.N.R. to insure the levels of EPA EP toxic contaminants in the residual soil are safely below the maximum levels allowed. The analysis included demonstrates that except for lead and chromium, contaminants in our sludge are below the maximum levels allowed by at least a factor of ten. The level of lead and chrome are also below EPA EP toxicity levels. These extremely low levels of EP toxic contaminants are due to either very limited use within our plant of chemicals containing these contaminants, or the levels present are simply background levels present in the soil on Advanced Circuitry property. Thus, Advanced Circuitry contends that except for chrome and lead, all EPA EP toxic contaminants in our residual soil are so insignificant as not to warrant testing.

Advanced Circuitry proposes to remove the residual soil beneath "A" pond to a depth where, by Atomic Absorption analysis, the levels of chrome and lead are 50% less than the levels recommended by the EPA. That is, soil will be removed until the levels of chrome and lead are less than 2.5 ppm each. This gives a 100% safety margin which ensure no danger to the environment.

The Atomic Absorption unit at Advanced Circuitry is capable of measuring concentration down to .002 ppm of chrome and .01 ppm of lead. It is on our unit that all metal concentrations will be determined.

- E. After the sludge is removed, soil samples will be taken at locations shown in the attached sketch. Sample sizes will be approximately a liter in volume and taken from the soil surface. All samples will be analyzed and evaluated per item D above.
- F. Any accumulation of sludge will be stored within the confines of "A" pond. The only need of accumulation is due to scheduling delays between shipments of our sludge. No sludge will be stored for longer than 90 days.
- G. Prior to closure starting, the Springfield office of the Missouri Department of Natural Resources will be given five days notice. Actual closure will start between August 1st and August 15, 1982 and will take approximately 8 days. Final closure will consist of grading over and seeding of the site.
- H. During closure operations, the DNR representative must be on site at all times due to our expected operating procedure. We plan to remove the sludge, sample, and cover the cleared area as we work our way across the pond.

265.113 Time Allowed for Closure

- A. Closure is to take place within 180 days of last receipt of wastes.
- B. We may apply to Regional Administrator for longer closure time.

265.114 Disposal or Decontamination of Equipment

- A. All the equipment and structures used in the closure shall be properly disposed of, or decontaminated by high pressure water spray applied within the confines of "A" pond. This is to be done by NIES.

265.115 Certification of Closure

- A. Upon closure, Litton shall submit to the Regional Director certification thereof signed by the operator and an independent professional registered engineer. The engineering firm of Hood-Rich has been contracted to oversee our operation. The engineer of Hood-Rich, Mr. Paul Hickman, feels that a daily inspection of between one and two hours should adequately enable him to properly evaluate our closure operation.
- B. Litton will make every effort to comply with the September 15, 1982 closure and certification date.



Chemical Waste Management, Inc.

Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

July 15, 1982

Litton Industries
Advanced Circuitry Division
4811 West Kearney
Springfield, Missouri 65803

Dear Mr. Copeland:

Chemical Waste Management's ENRAC Division appreciates the opportunity to submit a proposal to remove and dispose of sludge in a lagoon at your Advanced Circuitry Division in Springfield, Missouri.

ENRAC has undertaken and successfully completed many lagoon cleanings in a safe and cost efficient manner. We are confident that we can provide you with service that is unmatched in the industry.

The transportation and disposal figure to Joliet, Illinois is calculated by using a minimum of 22 yd³ per truck load. The figure is also contingent upon receipt of a state disposal permit.

Application for said permit was made 2 July 82. We should receive approval of this application by the end of July. As you will note in our quotation, I estimate the time required to complete work on your lagoon at 8 working days. This means we can begin work as late as 1 September and complete the closure of the lagoon by your 15 September deadline.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Scott Schedell', is written over the typed name.

Scott Schedell
Project Coordinator

SS/db



TECHNICAL PROPOSAL

The scope of work for this project can be grouped into 3 phases.

1. Cleaning of the lagoon and stockpiling, for loading, of the lagoon sludge
2. Loading of the stockpiled sludge in sealed dumptrailers for transportation to a secure landfill
3. Backfilling and grading of the cleaned lagoon

We propose to use one machine, a track type loader, to complete the 3 phases. This will keep excavating and mobilization costs to a minimum.

When operations begin a hole will be excavated in the surrounding containment berm to facilitate the loading of the sludge material. The loader will then enter the lagoon area and begin stockpiling the sludge near the hole in the containment berm. A representative from your company will have to make a determination as to when the extent of excavation is adequate.

Backfilling operations will begin immediately in clean areas. This will be done by dozing the containment berm into the clean area. The entire lagoon area will then be graded for drainage and appearance.

This proposal is based on the assumption that the sludge material can be loaded as is. No provision is made for solidification agents or solidifying procedures.

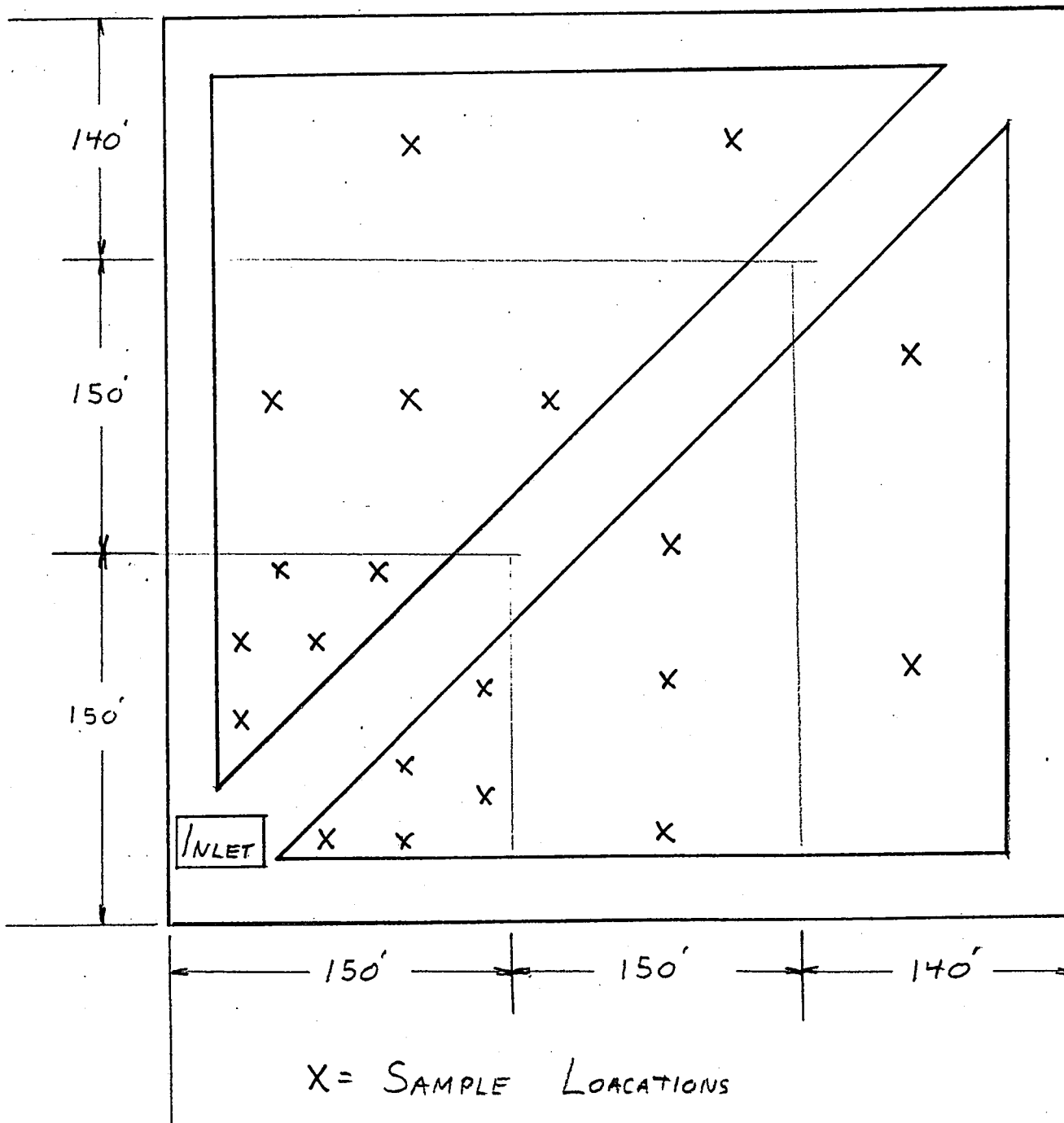
We propose to remove 300 yd³ of sludge material per day. This will enable us to complete the project in approximately 8 working days.

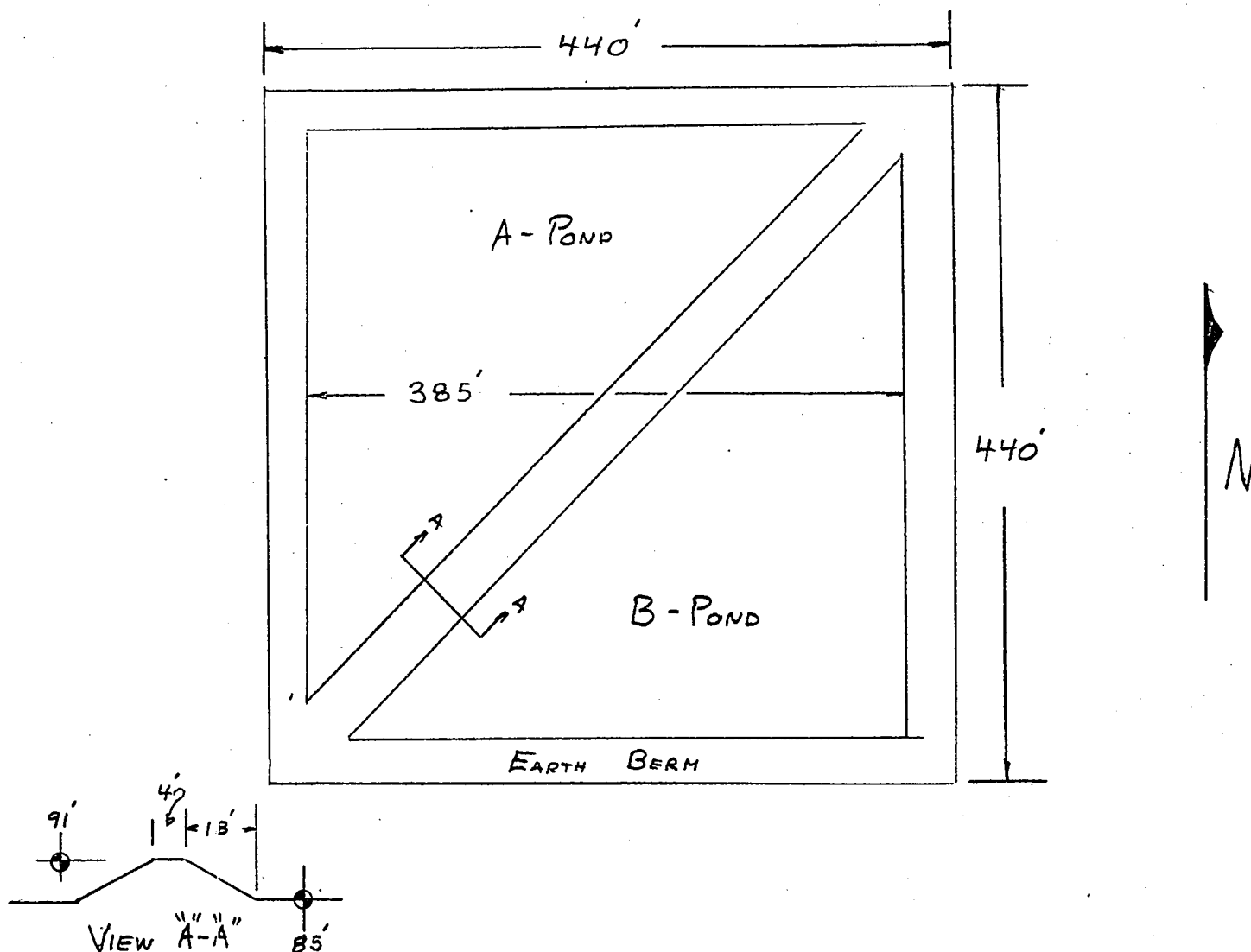


ADVANCED CIRCUITRY

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SAMPLING PLAN





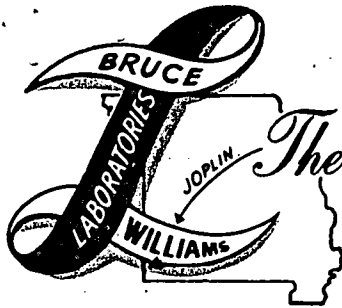
VOLUME CALCULATION

- ASSUME ① "A" lagoon & "B" lagoon equal size
② Depth of sludge averages 4"

$$\begin{aligned} V &= 2 \left[\frac{1}{2} b h \right] \left[\frac{4}{12} \right] \\ &= 2 \left[\left(\frac{1}{2} \right) \left(385' - \left(18' + \frac{4'}{2} \right) \right) \left(385' - \left(18' + \frac{4'}{2} \right) \right) \right] \left[\frac{4}{12} \right] \\ &\approx 44,408 \text{ ft}^3 \rightarrow \approx 1600 \text{ yd}^3 \end{aligned}$$

Allow 10% error

$$\begin{aligned} V &\approx 1800 \text{ yd}^3 \text{ max} \\ &1400 \text{ yd}^3 \text{ min.} \end{aligned}$$



The Bruce Williams Laboratories

MAIN OFFICE AND LABORATORIES BOX 169 TELEPHONE 623-1556

June 3, 1982

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CONSULTING
RESEARCH

ESTABLISHED 1898

Joplin, Missouri

64804

Litton Industries - Advanced Circuitry Division
4811 West Kearney
Springfield, Missouri 65803

969348 Sample of Sludge from A & B Pond

Tested per Missouri DNR - 10 CSR 25-4.010 Hazardous
Waste Identification:

| | <u>Results</u> | <u>Specifications</u> |
|--|----------------|-----------------------|
| Ignitable Hazardous Waste: | | |
| Flash Point, ASTM D-93 | 80°C+ | 60°C |
| Spontaneous/Friction, Etc. | No | |
| Ignitable Gas | No | |
| Oxidizer | No | |
| Corrosive Hazardous Waste: | | |
| pH | 8.6 | 3 - 12 |
| Corrode Steel | No | |
| Reactive Hazardous Waste: | | |
| Is normally unstable and readily under- goes violent chemical change but does not detonate; reacts violently with water, forms potential explosive mixtures with water, or generates toxic fumes when mix- ed with water; or is a cyanide or sulph- ide-bearing waste which might degenerate toxic fumes under mildly acidic or basic conditions | No | |
| Is capable of detonation or explosive re- action but requires a strong initiating source or which must be heated under con- finement before initiation can take place, or which reacts explosively with water | No | |

969348 Sample of Sludge from A & B Pond

| | <u>Results</u> | <u>Specifications</u> |
|--|----------------|-------------------------------------|
| Reactive Hazardous Waste: (Continued) | | |
| Is readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures | No | |
| Is a forbidden explosive (e.g. such wastes include pyrophoric substances, explosives, Autopolymerizable material and oxidizing agents) | No | |
| | | <u>Extract Level</u> <u>mg/l</u> |
| Toxic Hazardous Waste: | | |
| Arsenic | <0.01 | 0.5 |
| Barium | 1.00 | 10.0 |
| Cadmium | <0.01 | 0.1 |
| Lead | 1.70 | 0.5 |
| Mercury | <0.001 | 0.02 |
| Selenium | <0.01 | 0.1 |
| Silver | <0.05 | 0.5 |
| Cyanide | <0.05 | |
| Sulfides | <0.001 | |
| Copper | 14.20 | |
| Nickle | 26.00 | |
| Zinc | 2.50 | |
| Chromium | 4.20 | |

THE ABOVE FIGURES ARE AS DETERMINED IN OUR LABORATORIES.

THE BRUCE WILLIAMS LABORATORIES

C/4-4301



General Testing Laboratories, Inc.

Engineering — Chemical Consultants

1517 WALNUT STREET / KANSAS CITY, MISSOURI 64108 / 816-471-1205



Date June 14 198 2

Number 42651

Sample of Sludge

Marked Received in lab 5-17-82

P. O. # 71794

Client Litton Industries, Inc.

EP Toxicity (Leachate), Federal Register/Vol. 45, No. 98/
Monday, May 19, 1980, Vol. 45, No. 212/Thursday, October 30,
1980; Vol. 46, No. 129/Tuesday, July 7, 1981

| | |
|--------------------|--------------------------------|
| Arsenic | 18 micrograms/liter |
| Barium | Less than 0.05 mg./liter |
| Cadmium | Less than 0.01 mg./liter |
| Chromium (Total) | 0.65 mg./liter |
| Chromium (VI) | Less than 0.01 mg./liter |
| Lead | 0.23 mg./liter |
| Mercury | Less than 0.2 micrograms/liter |
| Selenium | 20 micrograms/liter |
| Silver | Less than 0.01 mg./liter |
| Copper | 13 mg./liter |
| Nickel | 14 mg./liter |
| Zinc | 0.57 mg./liter |
| Total As Received: | |
| Cyanides | 2.89 % |
| Sulfides | Less than 1.0 mg./liter |

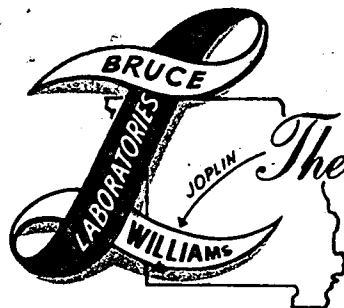
GENERAL TESTING LABORATORIES, INC.

By Lawrence Poivres

(1)cl

Form 110B

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The Bruce Williams Laboratories

MAIN OFFICE AND LABORATORIES BOX 169 TELEPHONE 623-1556

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April 30, 1982

Joplin, Missouri

66802

Litton Industries
Advanced Circuitry Division
4811 West Kearney
Springfield, Missouri 65803

P.O. #71623, 4-22-82
Acct. #62841

969173 Sample of Sludge - S.W. 4-22-82

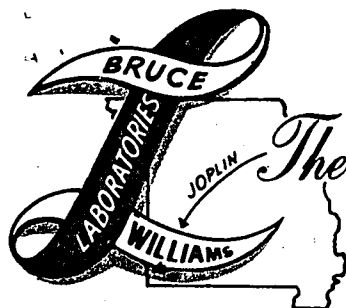
Analysis on Basis

| | | <u>As Received</u> | <u>On Leachette</u> |
|----------------------------|----|--------------------|---------------------|
| Arsenic | As | <0.001 mg/l | <0.001 mg/l |
| Lead | Pb | 2,621.0 mg/l | <0.10 mg/l |
| Silver | Ag | <0.10 mg/l | <0.10 mg/l |
| Copper | Cu | 2,879.0 mg/l | 5.9 mg/l |
| pH | | 8.0 | 5.5 |
| Total Cyanide | Cn | <0.01 mg/l | <0.01 mg/l |
| Barium | Ba | <0.10 mg/l | <0.10 mg/l |
| Mercury | Hg | <0.001 mg/l | <0.001 mg/l |
| Chromium - Hexavalent | Cr | 2.0 mg/l | <0.01 mg/l |
| - Trivalent | Cr | 4,503.0 mg/l | <0.01 mg/l |
| Nickel | Ni | 3,470.0 mg/l | 9.40 mg/l |
| % Weight Volatiles @ 100°C | | 26.18% | |
| @ 600°C | | 12.85% | |
| Cadmium | Cd | <0.01 mg/l | <0.01 mg/l |
| Selenium | Se | <0.01 mg/l | <0.01 mg/l |
| Zinc | Zn | 36.9 mg/l | 0.40 mg/l |

THE BRUCE WILLIAMS LABORATORIES

THE ABOVE FIGURES ARE AS DETERMINED IN OUR LABORATORIES
C/4-4209

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The Bruce Williams Laboratories

MAIN OFFICE AND LABORATORIES BOX 169 TELEPHONE 623-1556

April 30, 1982

ESTABLISHED 1898

Joplin, Missouri

64802

Litton Industries
Advanced Circuitry Division
4811 West Kearney
Springfield, Missouri 65803

P. O. #71623, 4-22-82
Acct. #62841

969172 Sample of Sludge - NW

4-22-82

Analysis on Basis

as Received

on Leachette

| | | | |
|-----------------------------|----|----------------------|-------------|
| Arsenic | As | <0.001 mg/l | <0.001 mg/l |
| Lead | Pb | 1,219.0 mg/l | 1.00 mg/l |
| Silver | Ag | <0.10 mg/l | <0.10 mg/l |
| Copper | Cu | 36,982.0 mg/l (3.7%) | 45.0 mg/l |
| pH | | 7.6 | 5.5 |
| Total Cyanide | Cn | <0.01 mg/l | <0.01 mg/l |
| Barium | Ba | 10.0 mg/l | <0.01 mg/l |
| Mercury | Hg | <0.001 mg/l | <0.001 mg/l |
| Chromium - Hexavalent | Cr | 2.0 mg/l | <0.01 mg/l |
| Trivalent | Cr | 3,966.0 mg/l | 2.60 mg/l |
| Nickel | Ni | 1,869.0 mg/l | 2.50 mg/l |
| % Weight Volatiles @ 100°C. | | 18.72% | --- |
| @ 600°C. | | 12.48% | --- |
| Cadmium | Cd | <0.01 mg/l | <0.01 mg/l |
| Selenium | Se | <0.01 mg/l | <0.01 mg/l |
| Zinc | Zn | 43.0 mg/l | 0.10 mg/l |

THE BRUCE WILLIAMS LABORATORIES

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